

For more information and technical assistance contact:

Chevron Phillips Chemical Company LP  
P.O. Box 4910  
The Woodlands, TX 77387-4910  
800.231.1212



## KR52

K-Resin® Styrene-Butadiene Copolymers (SBC)

### Customer Benefits

- Excellent Optical Properties
- Good Stiffness
- Excellent Printability
- Up to 80% Shrinkage at 100°C

### Typical Applications

- Shrink Sleeve Labels
- Multi-layer Films
- Tamper Evident Bands
- Roll-Fed Labels

Nominal Physical Properties <sup>(1)</sup>	English	SI	Test Method (ASTM)
Specific Gravity	1.01 g/cc	1.01 g/cc	ASTM D792
Melt Flow Rate, 200°C / 5 kg	9.0 g/10 min	9.0 g/10 min	ASTM D1238
Vicat Softening Point <sup>(2)</sup>	142°F	60°C	ASTM D1525
Haze	4 %	4 %	ASTM D1003
Gloss	145 %	145 %	ASTM D523
Puncture	27 in lb	3 J	ASTM D3763
Coefficient of Friction, Kinetic	0.25	0.25	ASTM D1894
Oxygen Gas Transmission Rate	210 cc mil/100in <sup>2</sup> 24 hr	85 cc mm/m <sup>2</sup> 24 hr	ASTM D3985
Moisture Vapor Transmission Rate	6 g mil/100in <sup>2</sup> 24 hr	2 g mm/m <sup>2</sup> 24 hr	ASTM F1249

Nominal Physical Properties <sup>(1)</sup>	English	SI	Test Method (ASTM)
Elmendorf Tear MD / TD	95 g / 75 g	95 g / 75 g	ASTM D1922
Tensile Yield Strength MD	4,400 psi	30 MPa	ASTM D882
Tensile Yield Strength TD	6,500 psi	45 MPa	ASTM D882
Tensile Break Strength MD	2,900 psi	20 MPa	ASTM D882
Tensile Break Strength TD	13,100 psi	90 MPa	ASTM D882
Elongation MD / TD	260 % / 80%	260 % / 80%	ASTM D882
Secant Modulus, 1% MD	160,000 psi	1,100 MPa	ASTM D882
Secant Modulus, 1% TD	232,000 psi	1,600 MPa	ASTM D882

(1) Typical cast film properties with 2% impact polystyrene, 2 mil (0.05 mm) (10 mil cast film oriented/tentered 5:1 in the Transverse Direction). The nominal properties herein are typical of the product but do not reflect normal testing variance and therefore, should not be used for specification purposes.

(2) Injection Molded Specimen.

### MEETS THESE IMPORTANT SPECIFICATIONS

- K-Resin® SBC grade KR52, as shipped by Chevron Phillips Chemical Company LP, meets the specifications of the United States FDA Food Packaging Regulation 21 CFR 177.1640 (polystyrene and rubber modified polystyrene). There are no regulatory food type or temperature restrictions on this resin.
- K-Resin® SBC grade KR52 is produced in an ISO 9001:2008 certified plant.
- Commission Regulation (EU) No. 10/2011 and all its amendments.

MSDS 100000000069

Revision Date February 2012

Another quality product from



Before using this product, the user is advised and cautioned to make its own determination and assessment of the safety and suitability of the product for the specific use in question and is further advised against relying on the information contained herein as it may relate to any specific use or application. It is the ultimate responsibility of the user to ensure that the product is suited and the information is applicable to the user's specific application. Chevron Phillips Chemical Company LP does not make, and expressly disclaims, all warranties, including warranties of merchantability or fitness for a particular purpose, regardless of whether oral or written, express or implied, or allegedly arising from any usage of any trade or from any course of dealing in connection with the use of the information contained herein or the product itself. The user expressly assumes all risk and liability, whether based in contract, tort or otherwise, in connection with the use of the information contained herein or the product itself. Further, information contained herein is given without reference to any intellectual property issues, as well as federal, state or local laws which may be encountered in the use thereof. Such questions should be investigated by the user.